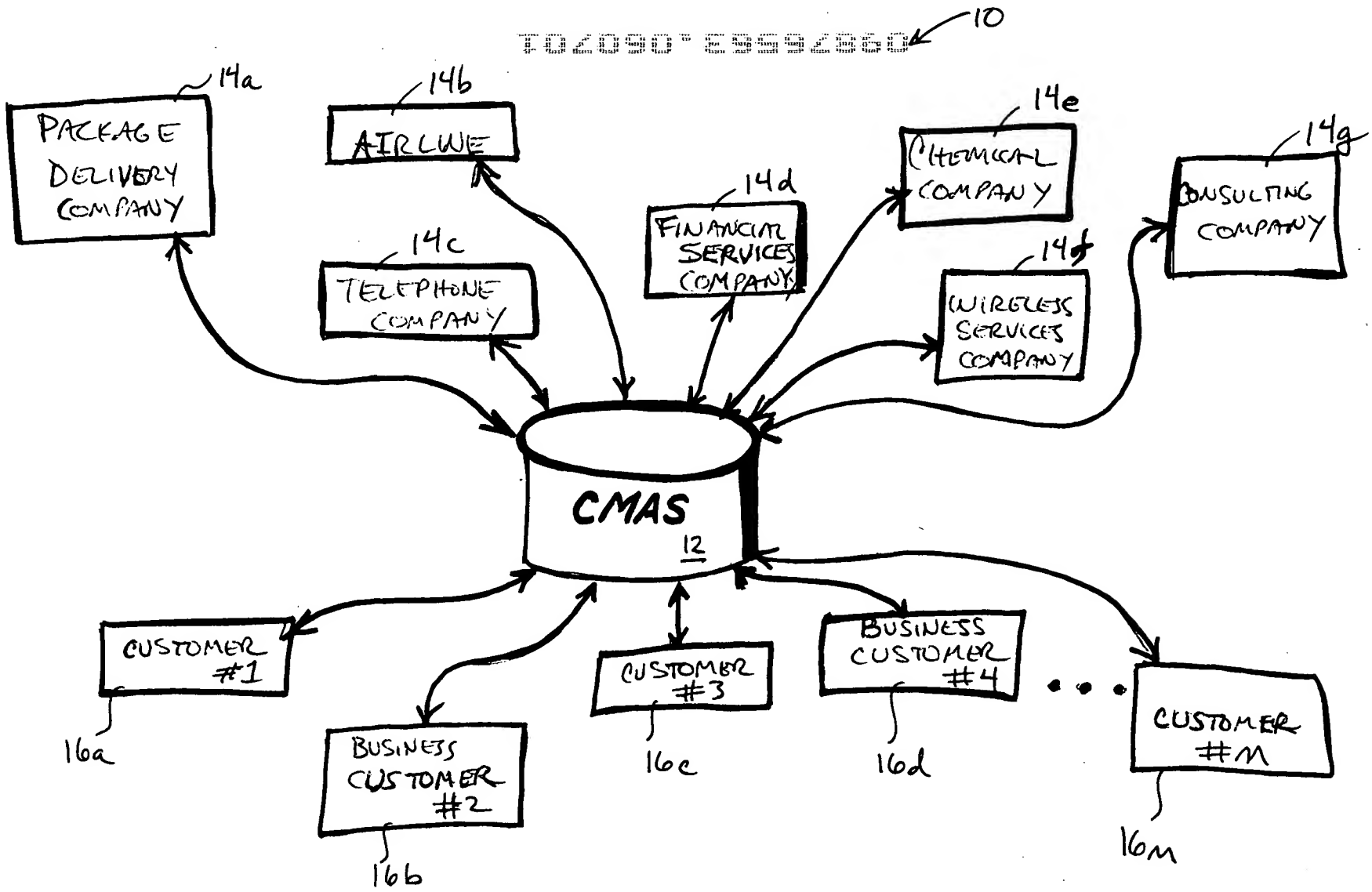

10
14a
PACKAGE DELIVERY COMPANY
14b
AIRLINE
14e
CHEMICAL COMPANY
14g
CONSULTING COMPANY
14d
FINANCIAL SERVICES COMPANY
14c
TELEPHONE COMPANY
14f
WIRELESS SERVICES COMPANY
CMAS
12
CUSTOMER #1
16a
BUSINESS CUSTOMER #2
16b
CUSTOMER #3
16c
BUSINESS CUSTOMER #4
16d
CUSTOMER #M
16m

FIG. 1

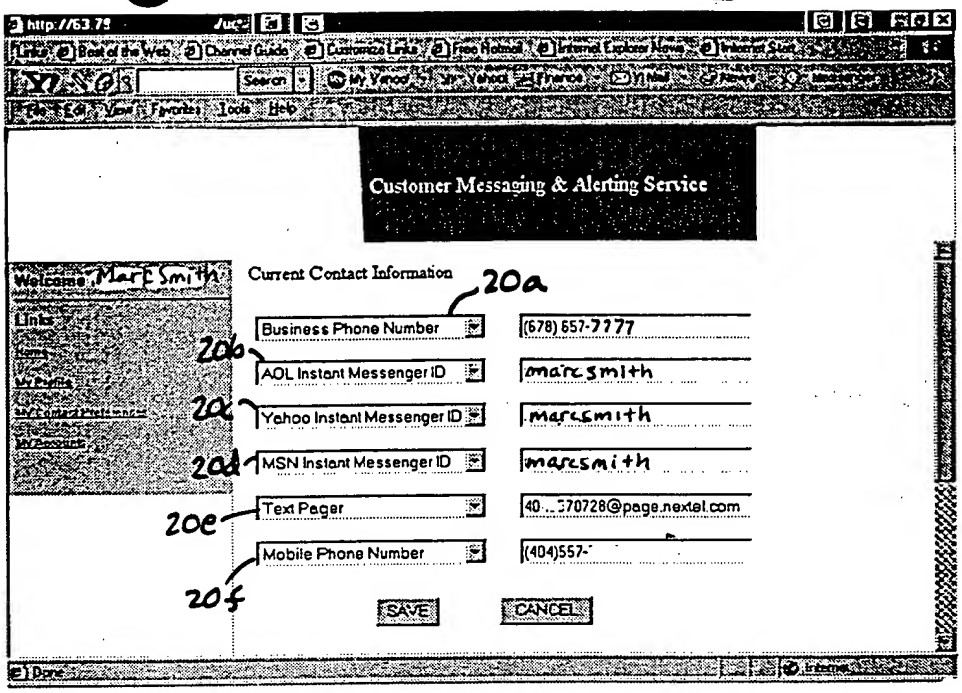

Customer Messaging & Alerting Service
Welcome Mark Smith
Links
Current Contact Information
20a
Business Phone Number
(678) 657-7777
20b
AOL Instant Messenger ID
marcsmith
20c
Yahoo Instant Messenger ID
marcsmith
20d
MSN Instant Messenger ID
marcsmith
Text Pager
40...270728@page.nextel.com
20e
Mobile Phone Number
(404)557-
20f
SAVE
CANCEL

FIG. 2A

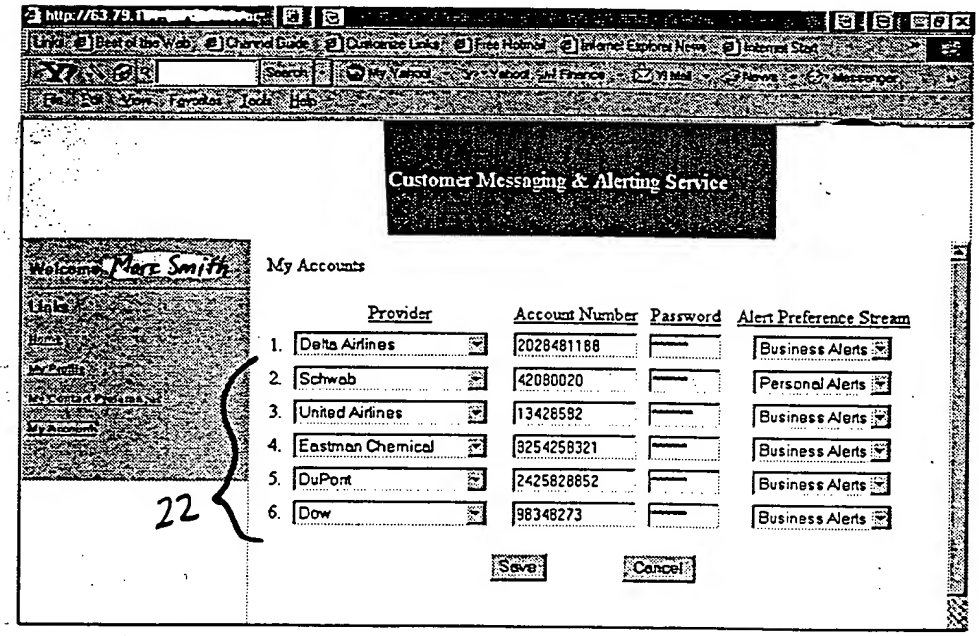

Customer Messaging & Alerting Service
Welcome Marc Smith
Links
My Accounts
Provider
Account Number
Password
Alert Preference Stream
1. Delta Airlines 2028481188 Business Alerts
2. Schwab 42080020 Personal Alerts
3. United Airlines 13428592 Business Alerts
4. Eastman Chemical 3254258321 Business Alerts
5. DuPont 2425828852 Business Alerts
6. Dow 98348273 Business Alerts
22
Save
Cancel

FIG. 2B

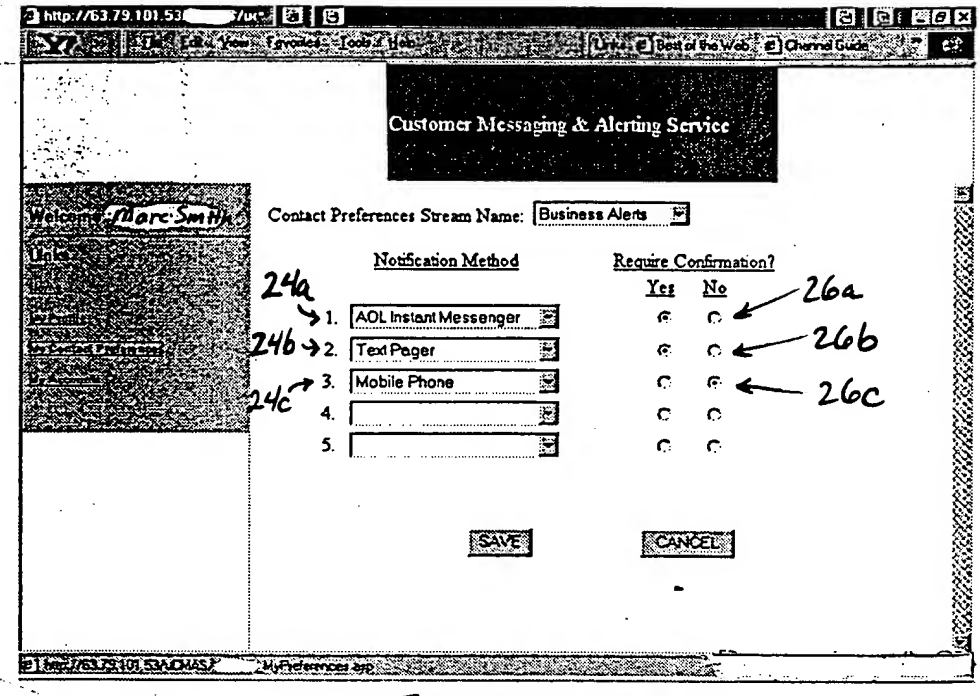
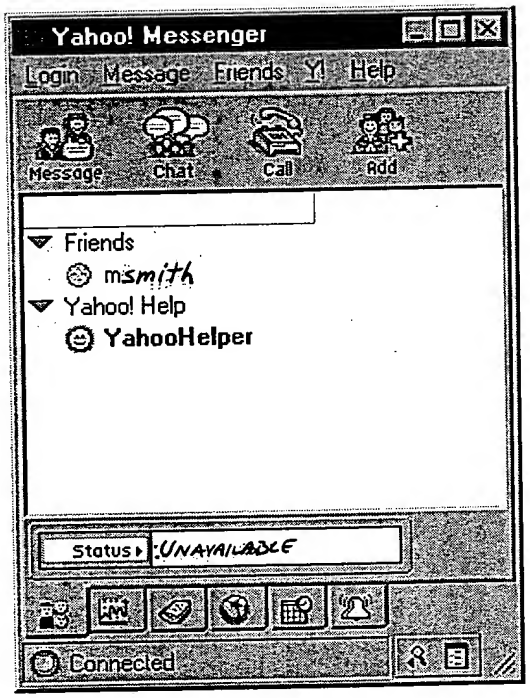


FIG. 2C

28

Component	Feature	Example
Contact Profile	Information	Phone information, IM information, Pager information
Contact Preference	Mode of Contact	How the customer wants to be contacted
Contact Preference	Time of Contact	When the customer wants to be contacted
Contact Preference	Hours of the Day	What particular time is preferred
Contact Preference	Time Zone	EST, PST, GMT
Account	Provider	AIRLINE, PACKAGE DELIVERY CO., FINANCIAL SERVICES CO.
Other Preference	Personalization	Where can I personalize the service
Other Preference	Activity	Business Event, Personal Alerts
Other Preference	Language	Language preference
Service Preference	Definition	Selecting AOL/Yahoo IDs, Passwords
Service Preference	Company Selection	Entering information for VARIOUS ACCOUNT NOS.

FIG. 2D


Yahoo! Messenger
Login Message Friends Y! Help
Message
Chat
Call
Add
Friends
msmith
Yahoo! Help
YahooHelper
Status
:Unavailable
Connected

30

Your Package will arrive at 10:30, at 123 Main St, will you be able to sign for it?
SEND
HOME
MENU
CLR
BACK
1
2 ABC
3 DEF
4 GHI
5 JKL
6 MNO
7 PQ RS
8 TUV
9 WX YZ
* .
0 +
=

32

FIG.3

TO2090 E959428B0

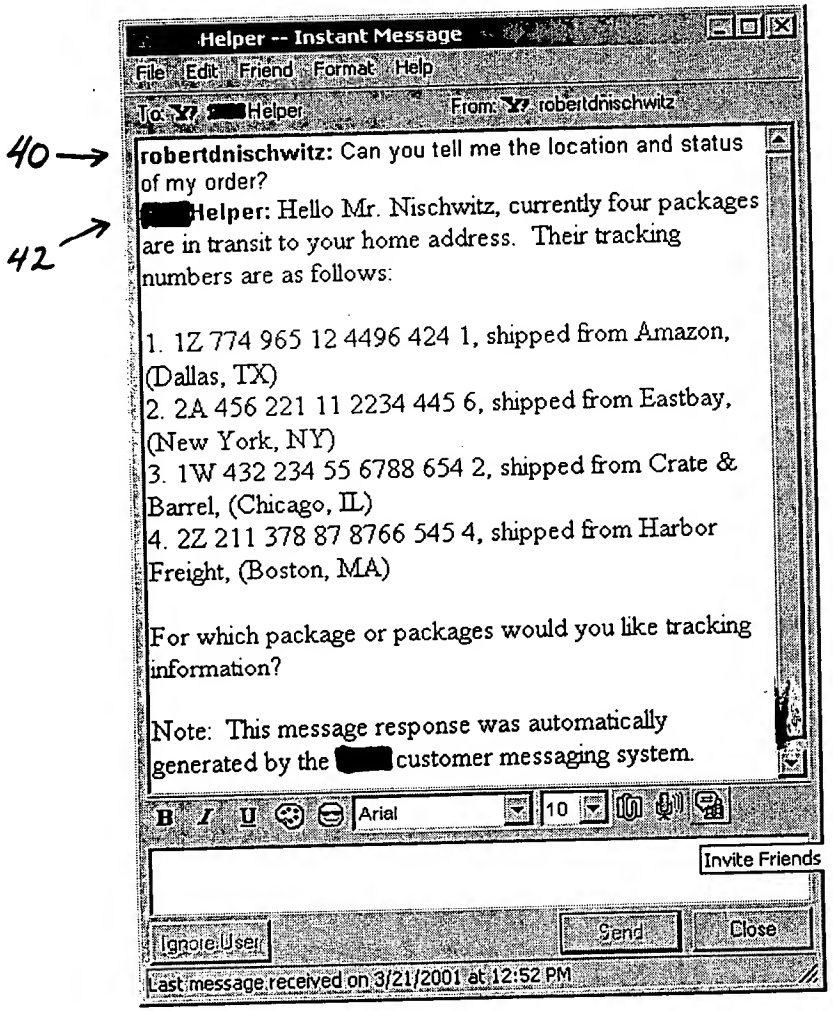


FIG. 4A

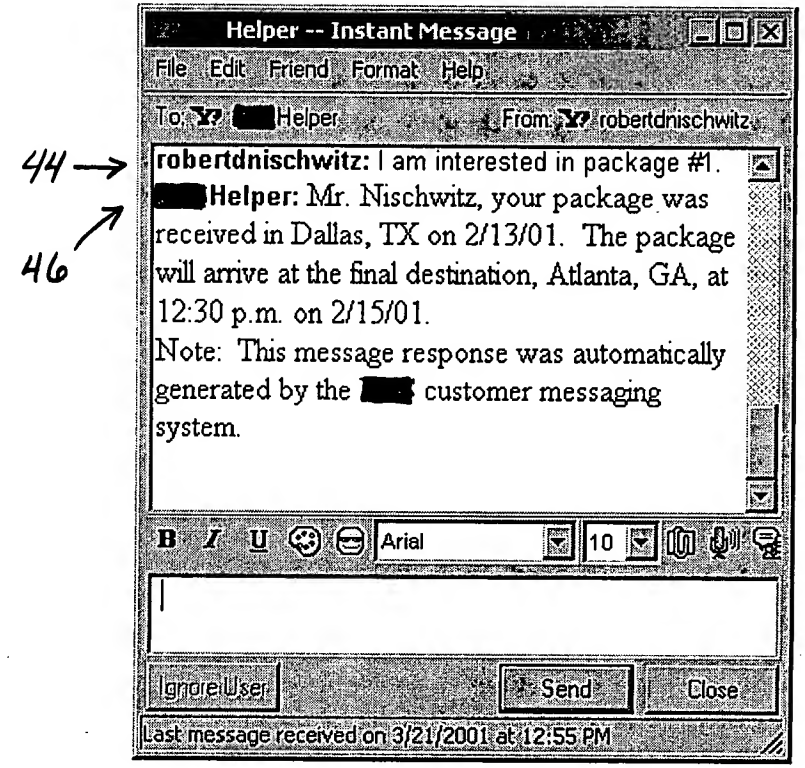


FIG. 4B

FD-2080 - 5959860

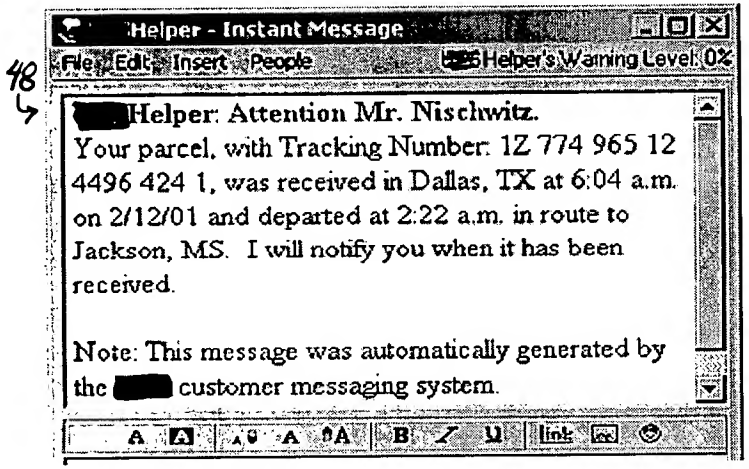


FIG. 4C

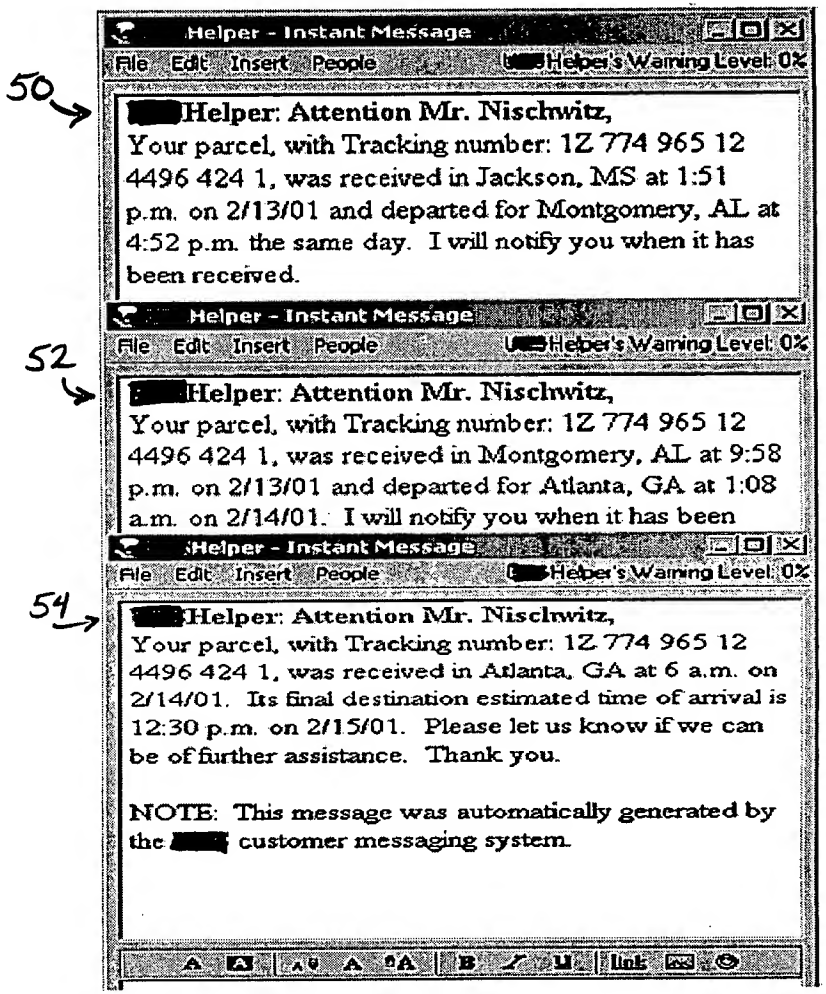


FIG. 4D

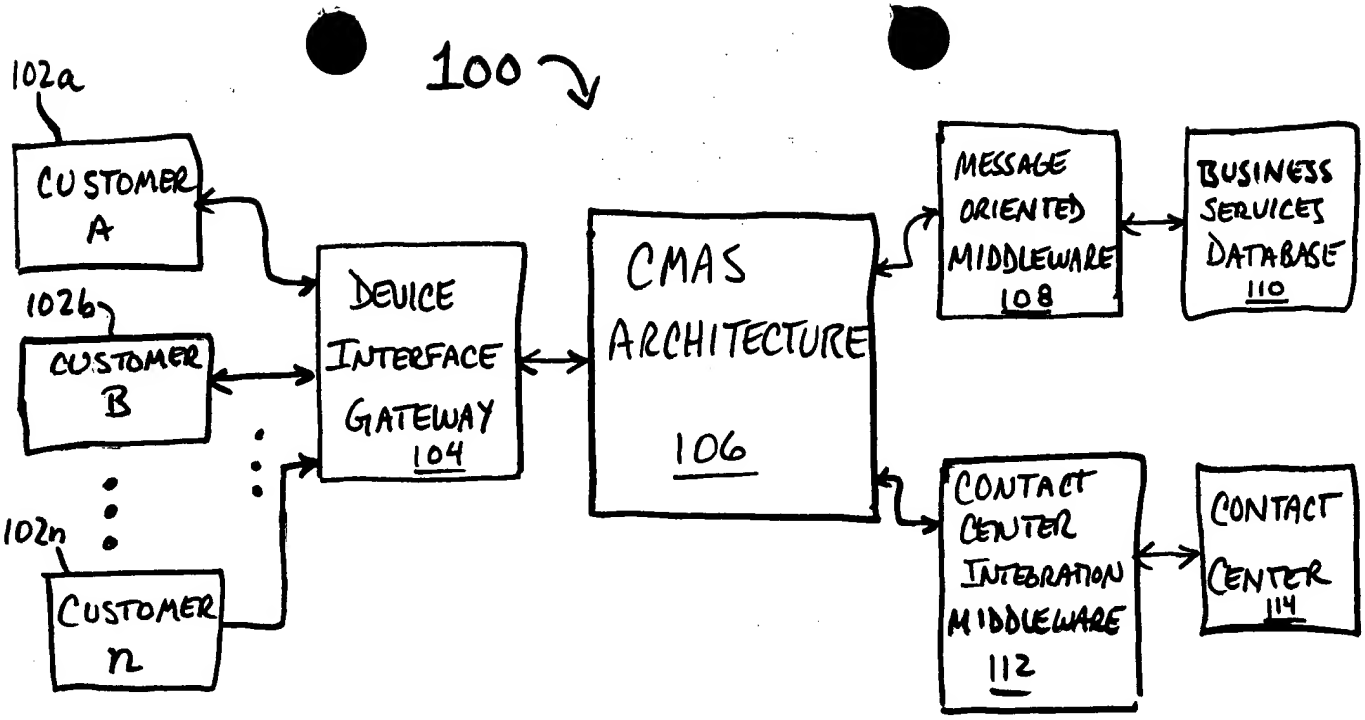

100
102a
CUSTOMER A
102b
CUSTOMER B
102n
CUSTOMER n
DEVICE INTERFACE GATEWAY 104
CMAS ARCHITECTURE 106
MESSAGE ORIENTED MIDDLEWARE 108
BUSINESS SERVICES DATABASE 110
CONTACT CENTER INTEGRATION MIDDLEWARE 112
CONTACT CENTER 114

FIG. 5A

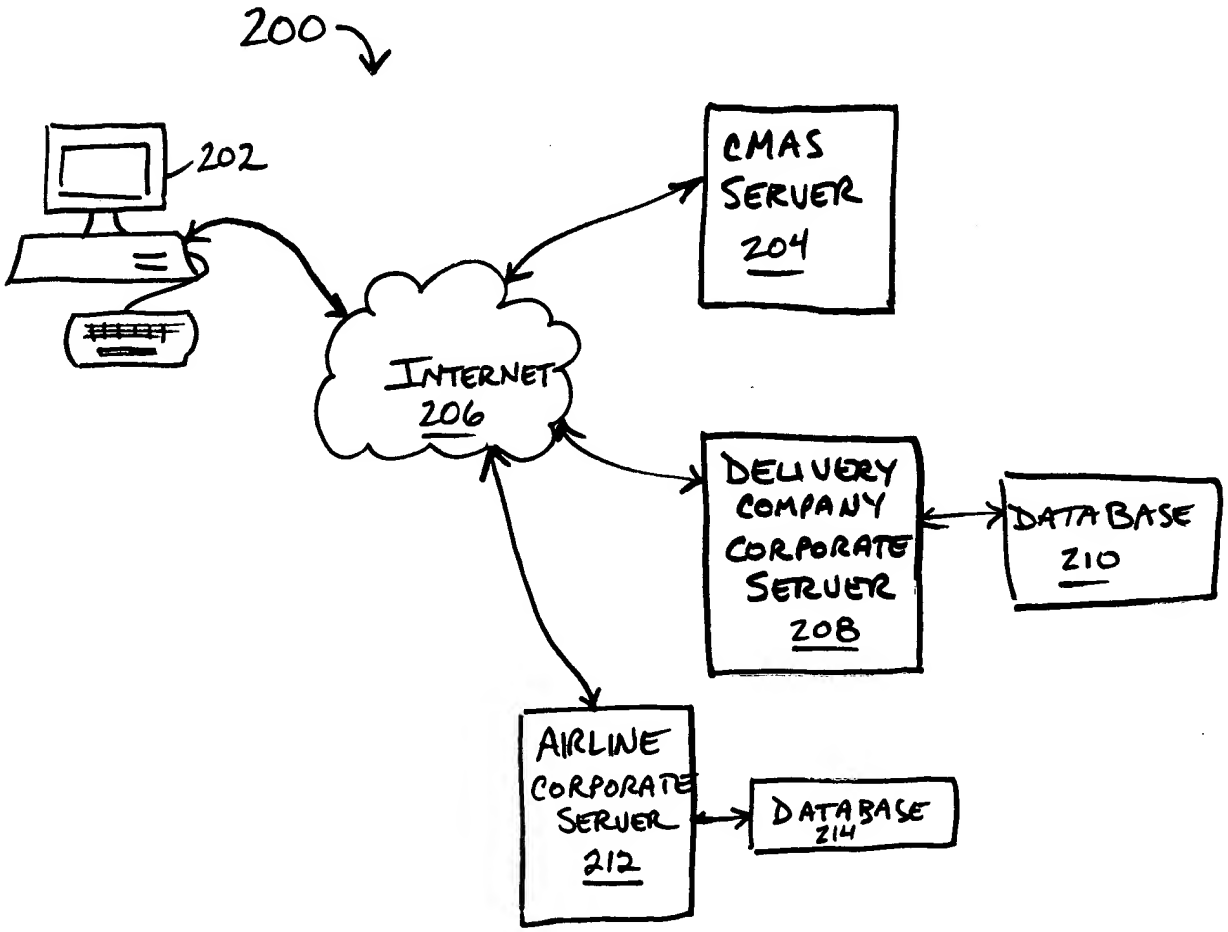

200
202
CMAS SERVER 204
INTERNET 206
DELIVERY COMPANY CORPORATE SERVER 208
DATABASE 210
AIRLINE CORPORATE SERVER 212
DATABASE 214

FIG. 6A

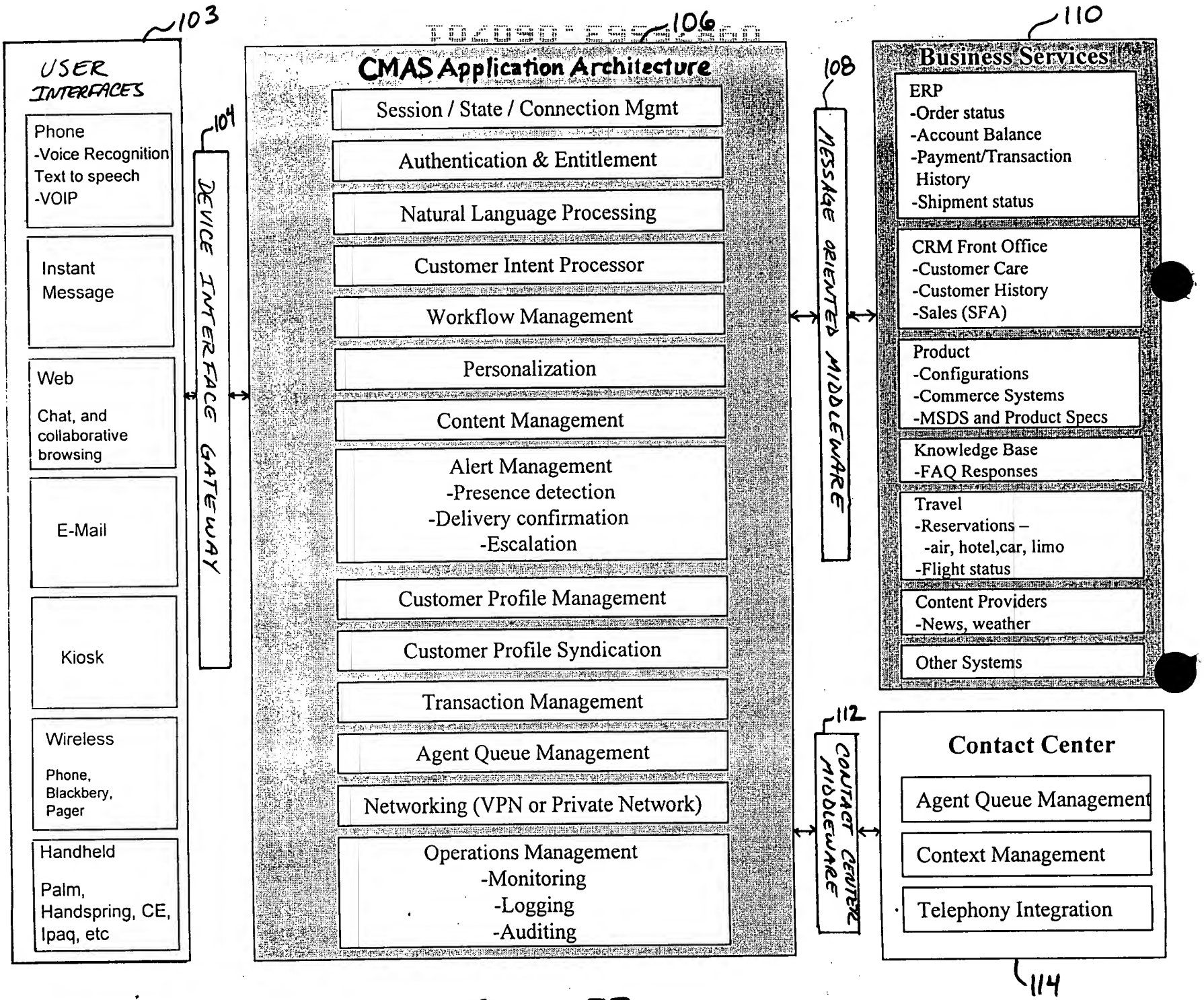

103
USER INTERFACES
Phone
-Voice Recognition
Text to speech
-VOIP
Instant Message
Web
Chat, and collaborative browsing
E-Mail
Kiosk
Wireless
Phone, Blackbery, Pager
Handheld
Palm, Handspring, CE, Ipaq, etc
104
DEVICE INTERFACE GATEWAY
106
CMAS Application Architecture
Session / State / Connection Mgmt
Authentication & Entitlement
Natural Language Processing
Customer Intent Processor
Workflow Management
Personalization
Content Management
Alert Management
-Presence detection
-Delivery confirmation
-Escalation
Customer Profile Management
Customer Profile Syndication
Transaction Management
Agent Queue Management
Networking (VPN or Private Network)
Operations Management
-Monitoring
-Logging
-Auditing
108
MESSAGE ORIENTED MIDDLEWARE
110
Business Services
ERP
-Order status
-Account Balance
-Payment/Transaction History
-Shipment status
CRM Front Office
-Customer Care
-Customer History
-Sales (SFA)
Product
-Configurations
-Commerce Systems
-MSDS and Product Specs
Knowledge Base
-FAQ Responses
Travel
-Reservations –
-air, hotel,car, limo
-Flight status
Content Providers
-News, weather
Other Systems
112
CONTACT CENTER MIDDLEWARE
Contact Center
Agent Queue Management
Context Management
Telephony Integration
114

FIG. 5B

125

126 Device/Service	127 Native Authentication	128 CMAS Secondary Authentication	129 Cookies	130 Other
Web Browser	Microsoft Passport	CMAS user ID/Password	Yes	None
WAP Phone	Varies	CMAS user ID/Password	Simulated	Security as provided by the Service provider
Cell Phone	Varies	CMAS user ID/Password	None	Security as provided by the Service provider
Instant Messenger	All require a userID/Password	CMAS user ID/Password	None	None
Windows CE hand held	Microsoft Passport	CMAS user ID/Password	Simulated	Security as provided by the Service provider
Cell Phone Based Pager	Varies	CMAS user ID/Password	None	Security as provided by the Service provider
Palm Hand held	Microsoft Passport	CMAS user ID/Password	Simulated	Security as provided by the Service provider
Two-Way Pagers	Varies	CMAS user ID/Password	None	Security as provided by the Service provider
Mobile Phone Voice Mail	Outbound from initial configuration	None	None	Security as provided by the Service provider
Interactive Pager	Outbound from initial configuration	None	None	Security as provided by the Service provider
Short Message Services	Outbound from initial configuration	None	None	Security as provided by the Service provider
Alpha/Numeric Pager	Outbound from initial configuration	None	None	Security as provided by the Service provider
Business Phone	Outbound from initial configuration	None	None	Security as provided by the Service provider
Business Voice Mail	Outbound from initial configuration	None	None	Security as provided by the Service provider
Home Number	Outbound from initial configuration	None	None	Security as provided by the Service provider
Alternative Business Contact	Outbound from initial configuration	None	None	Security as provided by the Service provider

FIG. 5C

Service (136)	Device (138)	Presence Detection (140)	Delivery Confirmation (142)	Guaranteed Delivery (144)	Receipt Acknowledge (146)	
					Native (147)	Manual (149)
AOL	Any Device that has AOL Instant Messenger	✓	-	-	-	✓
Yahoo!	Any Device that has Yahoo Instant Messenger	✓	-	-	-	✓
Microsoft	Any Device that has MSN Instant Messenger	✓	-	-	-	✓
Pager	Interactive Pager	-	Varies	Some	Some	-
	Alpha/Numeric Pager	-	Varies	Some	-	✓
	Cell Phone Based Pager	-	Varies	Some	-	-
	Two-Way Pagers		Varies	Some	✓	-
Wireless enabled PDA	PDA	-	✓	Some	Some	✓
	Windows CE	-	✓	Some	Some	✓
Voice Mail	Mobile Phone Voice Mail	-	-	✓	-	-
	Business Voice Mail	-	-	✓	-	-
Voice Call	Business Phone	-	-	✓	-	✓
	Home Number	-	-	✓	-	✓
	Alternative Business Contact	-	-	✓	-	✓
	Mobile Phone	-	-	✓	-	✓
SMS	SMS Capable Device	-	Varies	✓	-	✓
WAP	WAP Micro-browser capable device	✓	✓	-	✓	-
	WAP Phone	-	✓	-	✓	-
Email	Email Client	-	✓	-	✓	✓

FIG. 5D

(160)

Device (162)	SMS (164)	Email (166)	IVR (168)	Voice Mail (170)	Instant Messenger (172)
Web Phone	✓	✓	✓	✓	✓
Mobile Phone (without internet access)	✓	✓	✓	✓	✓
Touch Tone Phone			✓	✓	
Pulse Dial Phone				✓	
Personal Computer / Desktop		✓			✓
Windows CE Device		✓			✓
Interactive Pager		✓			
Palm OS Handheld		✓			✓

FIG. 5E

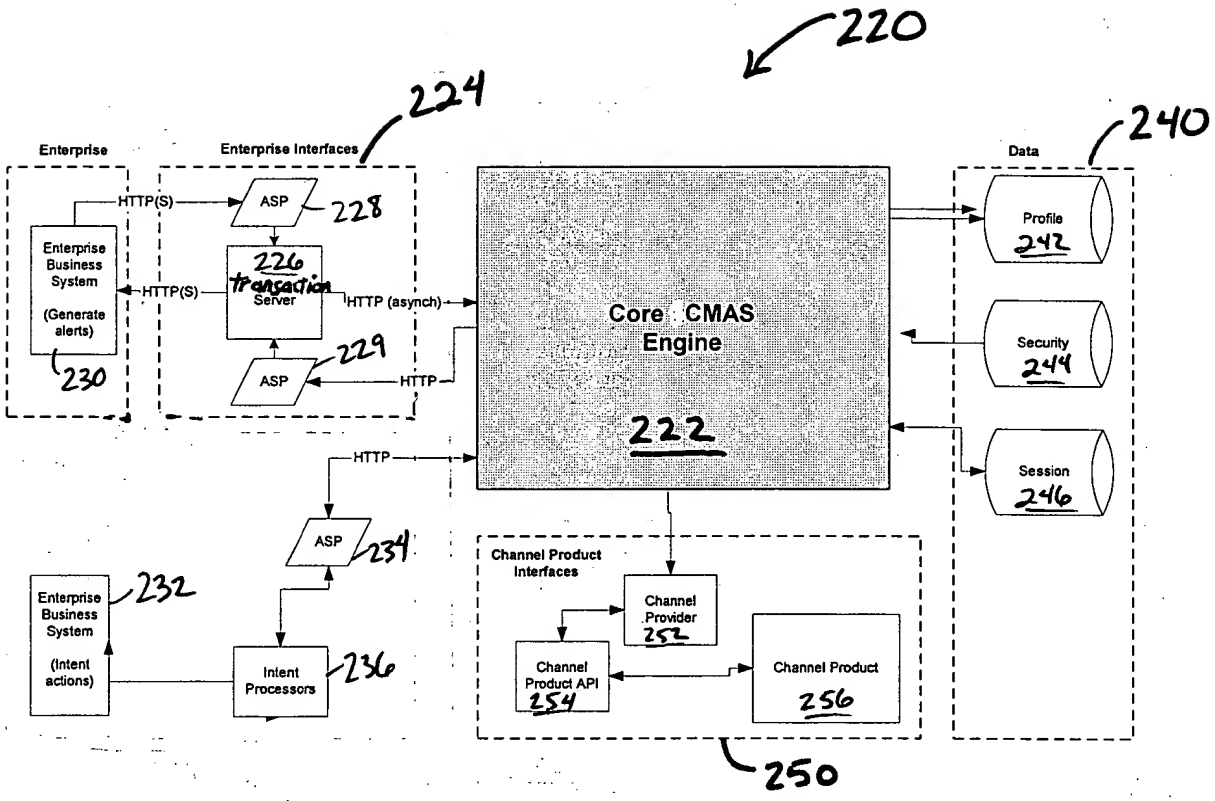

220
224
240
Enterprise
Enterprise Interfaces
Data
HTTP(S)
ASP
228
Enterprise Business System
(Generate alerts)
230
HTTP(S)
226
Transaction Server
HTTP (asynch)
ASP
229
HTTP
Core CMAS Engine
222
Profile
242
Security
244
Session
246
HTTP
ASP
234
Enterprise Business System
(Intent actions)
232
Intent Processors
236
Channel Product Interfaces
Channel Provider
252
Channel Product API
254
Channel Product
256
250

FIG. 6B

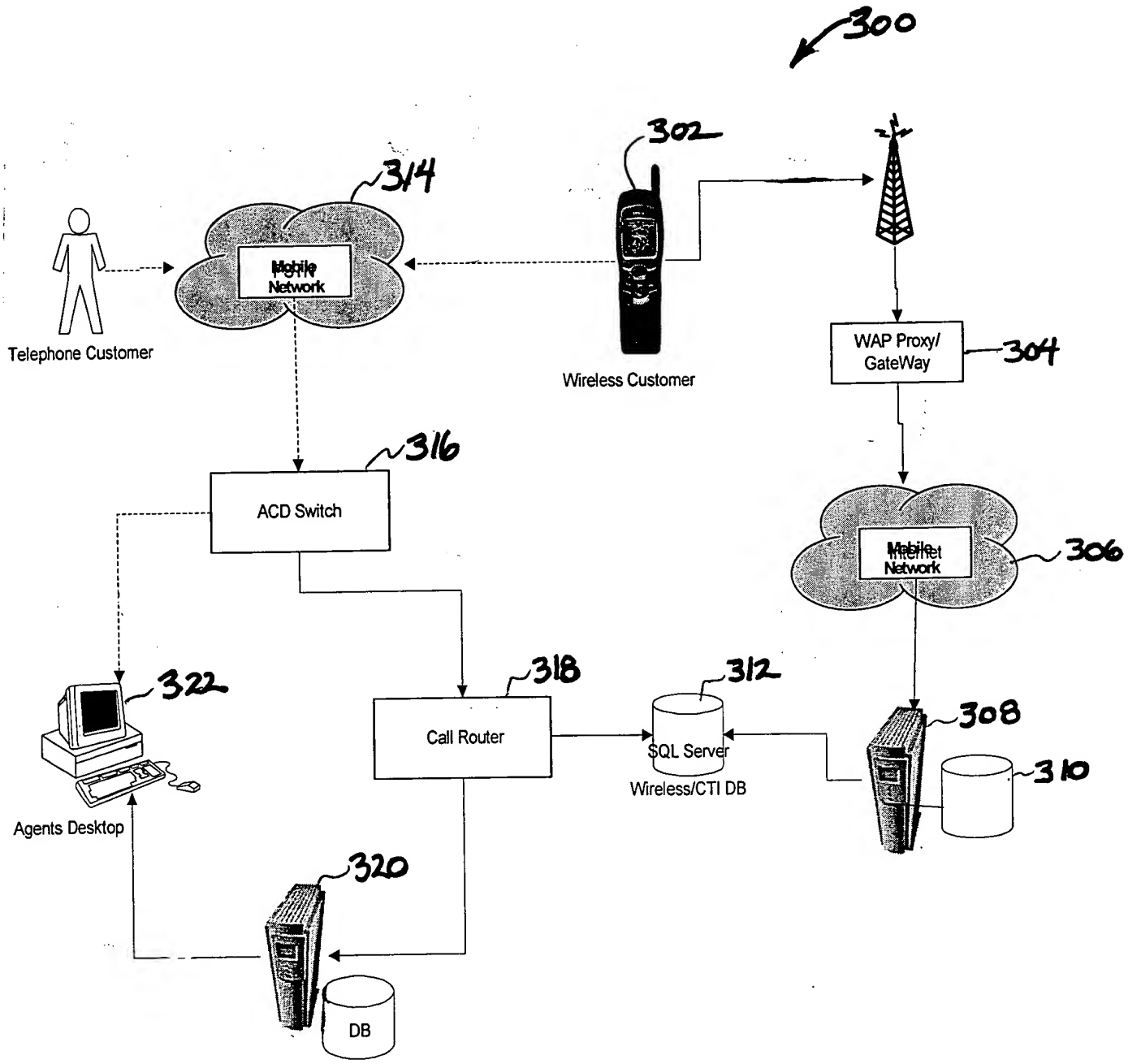

300
302
314
Mobile Phone Network
Telephone Customer
Wireless Customer
WAP Proxy/ GateWay
304
316
ACD Switch
Mobile Internet Network
306
322
318
312
308
310
Call Router
SQL Server
Wireless/CTI DB
Agents Desktop
320
DB

FIG. 7